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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,414	09/28/2001	Srinivas Gutta	US010451	4362

24737 7590 03/07/2006

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EXAMINER	
LONSBERRY, HUNTER B	
ART UNIT	**PAPER NUMBER**
2611	

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/966,414	GUTTA ET AL.	
	Examiner	Art Unit	
	Hunter B. Lonsberry	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,8,9 and 11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6, 8-9 and 11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

RJ

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 12/9/05 have been fully considered but they are not persuasive.

Applicant argues that step 164 is the only step in figure 7b that updates the subscribers profile and occurs in Payton's sequence before the similarity groups (second users) are determined in step 166. Because the Payton's subscriber's profile is updated before the second user's are identified, Applicant's maintain that Payton cannot be said to teach modifying the first user's profile responsively to data from a second user's profile as claimed in claim 1 (pages 6-7).

Regarding Applicant's argument, the Examiner disagrees. Claim 1 requires that a user's profile be refined responsively to the feedback (step 164). In step 172, the user's profile is again modified responsively to data from a second data profile (ratings changes (column 8, lines 50-57). Thus Payton does teach each and every element of claim 1.

Applicant argues that Payton does not teach selecting primarily test data for which the first user's profile is insufficient for the recommender to determine whether the test data would be favoured or disfavoured. Payton specifically teaches that only items considered are items for which the subscriber has provided or rating. Given that the

subscriber has provided a rating on the item, the recommender will know whether the item is favoured or unfavoured. Additionally,. Payton's weighting based on inverse proportion to the dissimilarity between subscribers will have the result of reinforcing the user's preferences by applying higher weights to similar preferences of the other subscriber. Providing test-data for which the recommender has little or no information for making a favourable or disfavourble determination as claimed in claim 5 is contrary to Payton's teachings (pages 7-8).

Regarding Applicants argument, Payton discloses in figure 6, a profile 40 with ratings vectors 146. The empty spaces in vector 146 represent items which have not been rated. The collaborative filter predicts ratings based on the ratings of the other subscribers in the group (column 8, lines 50-58). Thus Payton would not know if a rating would be favoured on unfavoured by the first user, as the first subscriber has not provided a rating.

Applicant argues that Payton does not teach the learning engine as claimed in claim 9. Applicants maintain that a numerical rating of a data selection as taught by Payton does not constitute a description defining data selections as the term description is commonly used in the art and as the term is used in applicant's disclosure. For example, in the summary of the invention, applicant's describe a version space algorithm, which "saves two descriptions of all the possible choices available in a database: a general description that is the broadest description of the choice space

excludes all negative choices and a specialized description that is the narrowest description that embraces all positives examples in the choice space." Applicants specifically use the terms broad and narrow to describe the descriptions, applications maintain that a numerical rating cannot be termed "broad" or "narrow" That is for example, a rating of "5" cannot be said to be broader or narrower than a rating of "2" as the terms broad and narrow are conventionally defined. Conversely, a description such as "all movies except westerns" can be characterized as being broader than a description such as "only dramatic movies." (Amendment pages 8-9).

Regarding applicant's argument , the examiner notes that claim 9 and 11 are silent regarding the use of a version space algorithm. Further Payton discloses that the learning engine is programmed such that the first user profile includes a narrow description defining target data selections (programs with a higher rating) and a broad description defining non-target data selections (lower ratings), the recommendations being derived from a space for selections lying between the broad and narrow descriptions (predictions may be made via a weight average of similarity between two profiles, column 9, lines 14-48). These narrow (higher rating) and broad (lower rating) selections are utilized to derive the recommendations by calculating a similarity between the profiles (column 9, lines 14-61). Additionally, the displayed list of programs displays a mix of highly rated programs by the user and recommended items (column 5, lines 6-21), the ratings being either a scale as 1-10, comments, or a positive vote (column 6, lines 36-42). The higher rated programs have a narrow appeal to a specific subset of

users, while a lower rated (broader) program appeals to a more general audience. Thus, Payton teaches each and every element of claims 9 and 11.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 8-9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,790,935 to Payton.

Regarding claim 1, Payton discloses a method (figures 6-7b) comprising:

receiving feedback from a first user scoring examples falling into various data-classes (column 6, lines 20-59, user rates offerings on a scale from 1-10 or comments on the item);

refining a first user's user profile associated with the first user responsively to the feedback (column 5, lines 6-20, column 6, lines 51-55, column 8, lines 37-column 9, line 13)

modifying the first user profile responsively to data from a second user profile associated with a second user (recommendations from a second similar user, column 9, lines 4-26); such that a frequency of recommendations of at least one data-class is

increased without decreasing a frequency recommendations of any other data-classes (column 9, lines 4-26, the combined scores are used to recommend programming, figure 7b, steps 166-172) so that the first user's user profile is expanded in scope according to preferences stored in the second user profile (the combination of ratings expands the scope of the user preferences, steps 166-170, column 9, lines 4-13, 49-56).

Regarding claim 2, Payton discloses that the first user's profile includes a specialized target description of favored data classes (user ratings of programs with a higher score, column 6, lines 36-40), and the step of modifying includes generalizing the specialized target description such that it encompasses at least one specialized target description of the second user's user profile (column 9, lines 4-26, the system utilizes predictions between the first user and a second user which is similar to the first user to formulate the recommendations to the user).

Regarding claim 3, Payton discloses that the step of modifying the first user profile includes substituting at least a union of specialized descriptions between the first and second user's profiles for the specialized description of the first user's user profile (column 9, lines 4-18, the subscribers profile is recomputed by taking into account a second user's ratings).

Regarding claim 4, Payton discloses that modifying the first user profile includes substituting at least a union of specialized descriptions between the first and second user's profiles for the specialized description of the first user's user profile (column 9, lines 4-18, the subscribers profile is recomputed by taking into account a second user's ratings).

Regarding claim 5, Payton discloses a method (figures 6-7b) comprising:

receiving feedback from a first user scoring examples falling into various data-classes (column 6, lines 20-59, user rates offerings on a scale from 1-10 or comments on the item);;

refining a first user's user profile associated with the first user responsively to the feedback (column 5, lines 6-20, column 6, lines 51-55, column 8, lines 37-column 9, line 13);

selecting test-data for revising the first user profile responsively to data from at least a second user profile associated with a second user and (column 8, lines 50-58, column 9, lines 4-26, the combined scores are used to recommend programming, figure 7b, steps 166-172);

requesting feedback on the test-data from the first user and modifying the first user's user profile responsively to the feedback (the combination of ratings expands the scope of the user preferences, figure 7b, steps 166-170, column 9, lines 4-13, 49-56) wherein,

the selecting step includes selecting primarily test data for which the first user's user profile is insufficient for the recommender to determine whether the test-data would be favored or disfavored (column 8, lines 50-58, ratings are supplied for programs which the first user has not rated, column 9, lines 14-48, both users must have rated the same set of items, however the weighting applied to the prediction is inversely proportional to the dissimilarity of the rating, thus the data is insufficient to determine if the test data would be favored or favored due to the low weighting).

Regarding claim 6, Payton discloses that the step of selecting includes selecting only test-data which feedback incorporated in the first user profile increases a discriminating power of the first user profile (column 9, lines 49-61, as a user rates more programs the user's tastes and interests are more accurately profiled and allow for other subscribers with similar tastes to be matched up with them).

Regarding claim 8, Payton discloses that the selecting the test-data step includes filtering through a number of data choices through a set of ratings and weights for the different types of programming, by conducting a similarity comparison (column 9, lines 14-48).

Regarding claim 9, Payton discloses a data-class recommender, comprising:

a learning engine 54 (prediction filter 54, column 6, lines 1-6, column 7, line 61-column 8, line 10);

a user interface device 32 connectable to the learning engine 54 (column 6, lines 20-42, column 8, lines 37-45);

the learning engine 54 being connectable to a data source 28 containing descriptions of data selections (column 6, lines 1-11, 20-28);

the learning engine being programmed to receive through the user interface, feedback from a first user evaluating the data selections and to progressively generate a description of data selections that are favored and disfavored by the first user, thereby generating a first user profile (column 6, lines 26-44,user inputs ratings for each offering and rates them from 1-10 to indicate like and dislike);

the learning engine being further programmed to generate recommendations of data selections for the first user responsively to the first user profile (column 8, line 59-column 9, line 3);

the learning engine being further programmed to selectively generate recommendations of data selections for the first user responsively to the first user profile and at least a second user profile of a second user (column 9, line 4-26)

wherein

the learning engine is programmed such that the first user profile includes a narrow description defining target data selections (programs with a higher rating) and a broad description defining non-target data selections (lower ratings), the recommendations being derived from a space for selections lying between the broad

and narrow descriptions (predictions may be made via a weight average of similarity between two profiles, column 9, lines 14-48).

Regarding claim 11, Payton discloses that the learning engine is further programmed to compare a level of narrowness in the narrow description to a threshold that the first user profile results in recommendations embracing a range of target data that is narrower than the threshold (column 9, lines 14-22, the learning engine determines a threshold for similarity and dissimilarity in order to make its recommendations) and the learning engine is further programmed to selectively generate recommendations of data selections for the first user responsively to the first user profile and the at least a second user profile responsively to a result of so-comparing the level with the threshold (column 9, lines 14-22, the learning engine makes its predictions/recommendations by considering profiles from other users within the threshold).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,438,579 to Hosken: Automated Content and Collaboration-Based System and Methods for Determining and Providing Content Recommendations.

U.S. Patent 5,978,766 to Luciw: Machine, Method and Medium for Assisted Selection of Information From a Choice Space.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hunter B. Lonsberry whose telephone number is 571-272-7298. The examiner can normally be reached on Monday-Friday during normal business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on 571-272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HBL

JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600